

NOTICE OF DRAFTSPERSON'S  
PATENT DRAWING REVIEWThe drawing(s) filed (insert date) 3-15-02 are:

A.  approved by the Draftsperson under 37 CFR 1.84 or 1.152.  
 B.  objected to by the Draftsperson under 37 CFR 1.84 or 1.152 for the reasons indicated below. The Examiner will require submission of new, corrected drawings when necessary. Corrected drawing must be submitted according to the instructions on the back of this notice.

1. DRAWINGS. 37 CFR 1.84(a): Acceptable categories of drawings: Black ink. Color. <input type="checkbox"/> Color drawings are not acceptable until petition is granted. <input type="checkbox"/> Fig(s) _____	8. ARRANGEMENT OF VIEWS. 37 CFR 1.84(i) <input type="checkbox"/> Words do not appear on a horizontal, left-to-right fashion when page is either upright or turned so that the top becomes the right side, except for graphs. Fig(s) _____
2. PHOTOGRAPHS. 37 CFR 1.84(b) <input type="checkbox"/> 1 full-tone set is required. Fig(s) _____ <input type="checkbox"/> Photographs may not be mounted. 37 CFR 1.84(c) <input type="checkbox"/> Poor quality (half-tone). Fig(s) _____	9. SCALE. 37 CFR 1.84(k) <input type="checkbox"/> Scale not large enough to show mechanism without crowding when drawing is reduced in size to two-thirds in reproduction. <input type="checkbox"/> Fig(s) _____
3. TYPE OF PAPER. 37 CFR 1.84(c) <input type="checkbox"/> Paper not flexible, strong, white, and durable. <input type="checkbox"/> Fig(s) _____ <input type="checkbox"/> Erasures, alterations, overwritings, interlineations, folds, copy machine marks not accepted. Fig(s) _____ <input type="checkbox"/> Mylar, vellum paper is not acceptable (too thin). <input type="checkbox"/> Fig(s) _____	10. CHARACTER OF LINES, NUMBERS, & LETTERS. 37 CFR 1.84(l) <input checked="" type="checkbox"/> Lines, numbers & letters not uniformly thick and well defined, clean, durable, and black (poor line quality). <input type="checkbox"/> Fig(s) <u>120-17</u>
4. SIZE OF PAPER. 37 CFR 1.84(f): Acceptable sizes: <input type="checkbox"/> 21.0 cm by 29.7 cm (DIN size A4) <input type="checkbox"/> 21.6 cm by 27.9 cm (8 1/2 x 11 inches) <input type="checkbox"/> All drawing sheets not the same size. <input type="checkbox"/> Sheet(s) _____ <input type="checkbox"/> Drawings sheets not an acceptable size. Fig(s) _____	11. SHADING. 37 CFR 1.84(m) <input type="checkbox"/> Solid black areas pale. Fig(s) _____ <input type="checkbox"/> Solid black shading not permitted. Fig(s) _____ <input type="checkbox"/> Shade lines, pale, rough and blurred. Fig(s) _____
5. MARGINS. 37 CFR 1.84(g): Acceptable margins: Top 2.5 cm Left 2.5cm Right 1.5 cm Bottom 1.0 cm SIZE: A4 Size Top 2.5 cm Left 2.5 cm Right 1.5 cm Bottom 1.0 cm SIZE: 8 1/2 x 11 Margins not acceptable. Fig(s) _____ <input type="checkbox"/> Top (T) _____ Left (L) <input type="checkbox"/> Right (R) _____ Bottom (B)	12. NUMBERS, LETTERS, & REFERENCE CHARACTERS. 37 CFR 1.84(p) <input type="checkbox"/> Numbers and reference characters not plain and legible. <input type="checkbox"/> Fig(s) <u>120-17</u> <input type="checkbox"/> Figure legends are poor. Fig(s) _____ <input type="checkbox"/> Numbers and reference characters not oriented in the same direction as the view. 37 CFR 1.84(p)(1) <input type="checkbox"/> Fig(s) _____ <input type="checkbox"/> English alphabet not used. 37 CFR 1.84(p)(2) <input type="checkbox"/> Fig(s) _____ <input type="checkbox"/> Numbers, letters and reference characters must be at least .32 cm (1/8 inch) in height. 37 CFR 1.84(p)(3) <input type="checkbox"/> Fig(s) _____
6. VIEWS. 37 CFR 1.84(h) REMINDER: Specification may require revision to correspond to drawing changes. Partial views. 37 CFR 1.84(h)(2) <input type="checkbox"/> Brackets needed to show figure as one entity. <input type="checkbox"/> Fig(s) _____ <input type="checkbox"/> Views not labeled separately or properly. <input type="checkbox"/> Fig(s) _____ <input type="checkbox"/> Enlarged view not labeled separately or properly. <input type="checkbox"/> Fig(s) _____	13. LEAD LINES. 37 CFR 1.84(q) <input type="checkbox"/> Lead lines cross each other. Fig(s) _____ <input type="checkbox"/> Lead lines missing. Fig(s) _____
7. SECTIONAL VIEWS. 37 CFR 1.84(h)(3) <input type="checkbox"/> Hatching not indicated for sectional portions of an object. <input type="checkbox"/> Fig(s) _____ <input type="checkbox"/> Sectional designation should be noted with Arabic or Roman numbers. Fig(s) _____	14. NUMBERING OF SHEETS OF DRAWINGS. 37 CFR 1.84(i) <input type="checkbox"/> Sheets not numbered consecutively, and in Arabic numerals beginning with number 1. Sheet(s) _____
	15. NUMBERING OF VIEWS. 37 CFR 1.84(u) <input type="checkbox"/> Views not numbered consecutively, and in Arabic numerals, beginning with number 1. Fig(s) _____
	16. CORRECTIONS. 37 CFR 1.84(w) <input type="checkbox"/> Corrections not made from prior PTO-948 dated _____
	17. DESIGN DRAWINGS. 37 CFR 1.152 <input type="checkbox"/> Surface shading shown not appropriate. Fig(s) _____ <input type="checkbox"/> Solid black shading not used for color contrast. <input type="checkbox"/> Fig(s) _____

## COMMENTS

REVIEWER J. CHASE DATE 1-16-03 TELEPHONE NO. 703 305 8430ATTACHMENT TO PAPER NO. 4

## REMINDER

833.145 Drawing changes may also require changes in the specification, e.g., if Fig. 1 is changed to Fig 1A, Fig. 1B, Fig.1C, etc., the specification, at the Brief Description of the Drawing, must likewise be changed. Please make such changes by 37 CFR 1.312 amendment at the time of submitting drawings.

## INFORMATION ON HOW TO EFFECT DRAWING CHANGES

### 1. Correction of Drawings - 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may **NOT** be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawing should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

### 2. Corrections other than Informalities Noted by Draftsperson on form PTO-948

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed change.

### Timing of Corrections

Applicant is required to submit the drawings corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.

833.145.001-002-003-004-005-006-007-008-009-010-011-012-013-014-015-016-017-018-019-020-021-022-023-024-025-026-027-028-029-030-031-032-033-034-035-036-037-038-039-040-041-042-043-044-045-046-047-048-049-050-051-052-053-054-055-056-057-058-059-060-061-062-063-064-065-066-067-068-069-070-071-072-073-074-075-076-077-078-079-080-081-082-083-084-085-086-087-088-089-090-091-092-093-094-095-096-097-098-099-0100-0101-0102-0103-0104-0105-0106-0107-0108-0109-0110-0111-0112-0113-0114-0115-0116-0117-0118-0119-0120-0121-0122-0123-0124-0125-0126-0127-0128-0129-0130-0131-0132-0133-0134-0135-0136-0137-0138-0139-0140-0141-0142-0143-0144-0145-0146-0147-0148-0149-0150-0151-0152-0153-0154-0155-0156-0157-0158-0159-0160-0161-0162-0163-0164-0165-0166-0167-0168-0169-0170-0171-0172-0173-0174-0175-0176-0177-0178-0179-0180-0181-0182-0183-0184-0185-0186-0187-0188-0189-0190-0191-0192-0193-0194-0195-0196-0197-0198-0199-0200-0201-0202-0203-0204-0205-0206-0207-0208-0209-0210-0211-0212-0213-0214-0215-0216-0217-0218-0219-0220-0221-0222-0223-0224-0225-0226-0227-0228-0229-0230-0231-0232-0233-0234-0235-0236-0237-0238-0239-0240-0241-0242-0243-0244-0245-0246-0247-0248-0249-0250-0251-0252-0253-0254-0255-0256-0257-0258-0259-0260-0261-0262-0263-0264-0265-0266-0267-0268-0269-0270-0271-0272-0273-0274-0275-0276-0277-0278-0279-0280-0281-0282-0283-0284-0285-0286-0287-0288-0289-0290-0291-0292-0293-0294-0295-0296-0297-0298-0299-0300-0301-0302-0303-0304-0305-0306-0307-0308-0309-0310-0311-0312-0313-0314-0315-0316-0317-0318-0319-0320-0321-0322-0323-0324-0325-0326-0327-0328-0329-0330-0331-0332-0333-0334-0335-0336-0337-0338-0339-0340-0341-0342-0343-0344-0345-0346-0347-0348-0349-0350-0351-0352-0353-0354-0355-0356-0357-0358-0359-0360-0361-0362-0363-0364-0365-0366-0367-0368-0369-0370-0371-0372-0373-0374-0375-0376-0377-0378-0379-0380-0381-0382-0383-0384-0385-0386-0387-0388-0389-0390-0391-0392-0393-0394-0395-0396-0397-0398-0399-0400-0401-0402-0403-0404-0405-0406-0407-0408-0409-0410-0411-0412-0413-0414-0415-0416-0417-0418-0419-0420-0421-0422-0423-0424-0425-0426-0427-0428-0429-0430-0431-0432-0433-0434-0435-0436-0437-0438-0439-0440-0441-0442-0443-0444-0445-0446-0447-0448-0449-0450-0451-0452-0453-0454-0455-0456-0457-0458-0459-0460-0461-0462-0463-0464-0465-0466-0467-0468-0469-0470-0471-0472-0473-0474-0475-0476-0477-0478-0479-0480-0481-0482-0483-0484-0485-0486-0487-0488-0489-0490-0491-0492-0493-0494-0495-0496-0497-0498-0499-0500-0501-0502-0503-0504-0505-0506-0507-0508-0509-0510-0511-0512-0513-0514-0515-0516-0517-0518-0519-0520-0521-0522-0523-0524-0525-0526-0527-0528-0529-0530-0531-0532-0533-0534-0535-0536-0537-0538-0539-0540-0541-0542-0543-0544-0545-0546-0547-0548-0549-0550-0551-0552-0553-0554-0555-0556-0557-0558-0559-05510-05511-05512-05513-05514-05515-05516-05517-05518-05519-05520-05521-05522-05523-05524-05525-05526-05527-05528-05529-05530-05531-05532-05533-05534-05535-05536-05537-05538-05539-05540-05541-05542-05543-05544-05545-05546-05547-05548-05549-05550-05551-05552-05553-05554-05555-05556-05557-05558-05559-05560-05561-05562-05563-05564-05565-05566-05567-05568-05569-055610-055611-055612-055613-055614-055615-055616-055617-055618-055619-055620-055621-055622-055623-055624-055625-055626-055627-055628-055629-055630-055631-055632-055633-055634-055635-055636-055637-055638-055639-055640-055641-055642-055643-055644-055645-055646-055647-055648-055649-055650-055651-055652-055653-055654-055655-055656-055657-055658-055659-055660-055661-055662-055663-055664-055665-055666-055667-055668-055669-055670-055671-055672-055673-055674-055675-055676-055677-055678-055679-055680-055681-055682-055683-055684-055685-055686-055687-055688-055689-055690-055691-055692-055693-055694-055695-055696-055697-055698-055699-0556100-0556101-0556102-0556103-0556104-0556105-0556106-0556107-0556108-0556109-0556110-0556111-0556112-0556113-0556114-0556115-0556116-0556117-0556118-0556119-0556120-0556121-0556122-0556123-0556124-0556125-0556126-0556127-0556128-0556129-0556130-0556131-0556132-0556133-0556134-0556135-0556136-0556137-0556138-0556139-0556140-0556141-0556142-0556143-0556144-0556145-0556146-0556147-0556148-0556149-0556150-0556151-0556152-0556153-0556154-0556155-0556156-0556157-0556158-0556159-0556160-0556161-0556162-0556163-0556164-0556165-0556166-0556167-0556168-0556169-0556170-0556171-0556172-0556173-0556174-0556175-0556176-0556177-0556178-0556179-0556180-0556181-0556182-0556183-0556184-0556185-0556186-0556187-0556188-0556189-0556190-0556191-0556192-0556193-0556194-0556195-0556196-0556197-0556198-0556199-0556200-0556201-0556202-0556203-0556204-0556205-0556206-0556207-0556208-0556209-0556210-0556211-0556212-0556213-0556214-0556215-0556216-0556217-0556218-0556219-0556220-0556221-0556222-0556223-0556224-0556225-0556226-0556227-0556228-0556229-0556230-0556231-0556232-0556233-0556234-0556235-0556236-0556237-0556238-0556239-0556240-0556241-0556242-0556243-0556244-0556245-0556246-0556247-0556248-0556249-0556250-0556251-0556252-0556253-0556254-0556255-0556256-0556257-0556258-0556259-0556260-0556261-0556262-05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56888-0556889-0556890-0556891-0556892-0556893-0556894-0556895-0556896-0556897-0556898-0556899-0556900-0556901-0556902-0556903-0556904-0556905-0556906-0556907-0556908-0556909-0556910-0556911-0556912-0556913-0556914-0556915-0556916-0556917-0556918-0556919-0556920-0556921-0556922-0556923-0556924-0556925-0556926-0556927-0556928-0556929-0556930-0556931-0556932-0556933-0556934-0556935-0556936-0556937-0556938-0556939-0556940-0556941-0556942-0556943-0556944-0556945-0556946-0556947-0556948-0556949-0556950-0556951-055